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# Air Resources Board

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May 30, 2003

Mail-Out #MSC 03-06

Dear Truck Owner/Operator:

## **Your 1993-1998 Model Year Diesel Engine May Have A Software Problem**

**Introduction:** You are receiving this letter because the California Air Resources Board (ARB or Board) is proposing a regulation which, if adopted, would require owners/operators of most 1993 through 1998 model year heavy-duty diesel engines (HDDE) to install new engine software. ARB's mission is to protect human health through the control of air pollution from stationary and mobile sources. As such, ARB has oversight authority for HDDE emissions.

Air pollution emitted from HDDEs is controlled in part by a computer software program contained in the electronic control module (ECM). These programs control engine parameters to ensure that the engine operates as cleanly and efficiently as possible.

**Background:** Most truck engines built from 1993 through 1998 contained software that allows considerably more oxides of nitrogen (NOx) to be emitted than is legally allowed. NOx emissions cause smog pollution. These 1993 through 1998 model year engines need to be reprogrammed to reduce the amount of NOx that is emitted. Lower NOx emissions will also aid in meeting federal air quality standards and aid in ensuring that California receives federal highway funding.

Low NOx software has been developed by seven engine manufacturers. Caterpillar, Cummins, and Renault have software for 1993 through 1998 model year heavy-duty diesel truck engines. Detroit Diesel, Mack, and Volvo have software for 1994 through 1998 model year heavy-duty diesel truck engines. International (formerly Navistar) has low NOx software for their 1998 model year heavy-duty diesel truck engines. This software is currently required to be installed in an applicable vehicle's ECM whenever the engine is rebuilt. Some owners/operators have had low NOx software installed in their engines prior to rebuild as well.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

**Regulatory Process:** ARB staff held a kick-off workshop to introduce a proposed regulatory measure, which would require owners/operators of all 1993 through 1998 model year HDDEs with low NOx software available to install it before set deadlines in 2004. A second workshop to discuss this proposed regulatory measure has been scheduled for June 25, 2003. The Board will consider adoption of the proposed regulatory measure at a hearing in fall 2003. All interested parties are welcomed to attend both the upcoming workshop and the board hearing.

**Outreach:** Trucking associations and dealers have been notified regarding this proposed regulatory measure. This letter is an attempt to reach owners and operators of 1993 through 1998 HDDE vehicles.

**Questions and Answers:** Below are some questions and answers designed to help you better understand this proposed regulatory measure:

- **How do I tell if my engines are affected?**  
Check the engine manufacturer and engine model in your truck. Most 1993-1998 model year heavy-duty diesel truck engines have low NOx software available. Compare your engine manufacturer and model with the attached list. If you find your engine on the list, low NOx software is available for your engine.
- **How do I get the software installed?**  
Go to your local engine dealer/repair facility and request the low NOx software for your engine. Dealers might be willing to arrange for installation at the trucking facility, particularly for larger fleets.
- **How much will it cost?**  
The low NOx software is free to anyone who requests it. The cost to the vehicle owner is the owner's time and the time that the vehicle is out of service.
- **How long will it take?**  
The low NOx software takes about 15 to 30 minutes to install on your ECM. Additional time is required for driving to and from the dealer/repair facility. There may also be wait time, which could be reduced or eliminated by scheduling your visit. Also, there should be no additional time attributed to installing the low NOx software if it is done at the same time as other service.

- **When do I have to have the software installed?**

If the Board adopts the regulation as proposed, the low NOx software must be installed between April and December 2004, depending on the model year of your vehicle. Our proposals are as follows:

1993-1994 Model Year by April 30, 2004  
1995-1996 Model Year by August 31, 2004  
1997-1998 Model Year by December 31, 2004

The low NOx software is available now. You may decide to have the software installed now, especially if your truck is getting other maintenance or repair service.

- **How will the new software affect fuel economy?**

Manufacturers have reported negligible fuel economy differences. Several fleets have had the low NOx software installed prior to rebuild and have reported no noticeable differences in their fuel use. However, there is a potential for a minor fuel economy penalty. We expect the average fuel economy penalty, if any, to be below one percent.

- **How will the new software affect the operation of my vehicle?**

The low NOx software should have no adverse affects on the operation of your vehicle, according to the manufacturers.

- **What if I have more questions?**

You can contact ARB by phone or by mail, or search our website. Here is the information that you need:

California Air Resources Board  
P. O. Box 2815  
Sacramento, CA 95814

ARB website: [www.arb.ca.gov](http://www.arb.ca.gov)

Low NOx software webpage: [www.arb.ca.gov/msprog/hdsoftware/hdsoftware.htm](http://www.arb.ca.gov/msprog/hdsoftware/hdsoftware.htm)

Contact Person: Lisa Jennings  
Phone Number: (916) 322-6913  
E-mail Address: [ljennings@arb.ca.gov](mailto:ljennings@arb.ca.gov)

Thank you for taking the time out to read this letter and for doing your part to maintain clean air for the people of our state.

Attachments